

Appl. No. 10/032,949
Amdt. dated October 18, 2005
Reply to Office action of July 28, 2005

Docket No. 10416-18

AMENDMENTS TO THE CLAIMS

Claim amendments and status:

1. (Currently Amended) A memory controller for accessing a memory having a plurality of blocks each constituted of a plurality of pages based on a host address supplied from a host computer, comprising:

search means for searching, based on start page data written in a redundant area of a block including a target page designated by the host address, a number of a start page of the block where the start page indicates a page, a preceding page thereof not being a free page and all following pages among the pages included in the corresponding block being free pages;

decision means responsive to a request to write user data issued by the host computer for determining whether progressive data writing for writing user data to a the target page designated by the host address is possible; and

write means responsive to an affirmative determination by the decision means for writing user data to the target page without performing an inter-block data transfer,

wherein the decision means makes the decision that progressive data writing is possible if the number of the target page is equal to or greater than that of the start page, determination based on start page data which was written to a redundant area; and

~~wherein start page data is written in redundant areas of all pages of a physical block in which data is writable by performing a series of data write operations, enabling determination of whether data has been written in redundant areas of all pages or only in a part thereof, in response to abnormal interruption.~~

2. (Canceled)

3. (Currently Amended) The memory controller as claimed in claim 1 ~~claim-2~~, wherein the write means writes at least a part of new free page information resulting from writing user data to at least one page included in the block which includes the target page.

4. – 16. (Canceled)

17. (Currently Amended) A flash memory system comprising a flash memory having a plurality of blocks each constituted of a plurality of pages and a memory controller for accessing the

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flash memory based on a host address supplied from a host computer, the memory controller comprising:

search means for searching, based on start page data written in a redundant area of a block including a target page designated by the host address, a number of a start page of the block where the start page indicates a page, a preceding page thereof not being a free page and all following pages among the pages included in the corresponding block being free pages;

decision means responsive to a request to write user data issued by the host computer for determining whether progressive data writing for writing user data to a the target page designated by the host address is possible; and

write means responsive to an affirmative determination by the decision means for writing user data to the target page without performing an inter-block data transfer,

wherein the decision means makes the decision that progressive data writing is possible if the number of the target page is equal to or greater than that of the start page. determination based on start page data which was written to a redundant area; and

~~wherein start page data is written in redundant areas of all pages of a physical block in which data is writable by performing a series of data-write operations, enabling determination of whether data has been written in redundant areas of all pages or only in a part thereof, in response to abnormal interruption.~~

18. (Currently Amended) The flash memory system as claimed in claim 17, wherein the write means writes new start page data to a redundant area resulting from writing user data to at least one page included in the block which includes the target page. each block has a user area and a redundant area in which free page information for the corresponding block is stored.

19. (Canceled)

20. (Currently Amended) A method for controlling a flash memory, comprising:
search means for searching, based on start page data written in a redundant area of a block including a target page designated by the host address, a number of a start page of the block where the start page indicates a page, a preceding page thereof not being a free page and all following pages among the pages included in the corresponding block being free pages;

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a determining step conducted in response to a request to write user data issued by a host computer of determining whether progressive data writing for writing user data to a the target page designated by the host address is possible; and

a writing step conducted in response to an affirmative determination in the determining step of writing user data to the target page without performing an inter-block data transfer;

wherein the determining step determines that progressive data writing is possible if the number of the target page is equal to or greater than that of the start page.

~~wherein the decision means makes the determination based on start page data which was written to a redundant area; and~~

~~wherein start page data is written in redundant areas of all pages of a physical block in which data is writable by performing a series of data write operations, enabling determination of whether data has been written in redundant areas of all pages or only in a part thereof, in response to abnormal interruption.~~